1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

291 erty even transcending the poor apparel, flimsy habitations, and generally ill-developed artifacts of the lowly tribe.

[237] The most prominent personal possession is the pelican-skin robe; it is usually made of six skins, slightly dressed and in full plumage, sewed together with sinew in a conventional pattern of such sort as to give the greatest possible expanse consistent with the irregular outlines of the individual skins, and at the same time to display a conventional color pattern on the feathered side, the colors ranging from the dorsal slate to the ventral white of the fowl (as indicated in plate XXIII); sometimes there are only four skins and rarely there are eight, but the conventional arrangement is maintained. Before the beginning of a

[301] [824]

FIG. 8.—Dried flower necklace.

[177] fairly regular barter at Rancho de Costa Rica, and hence before the introduction of manta and other stuffs, the pelican-skin robes were supplemented by kilts made of mesquite root or other fibers, spun and twisted

[266] in the fingers and woven probably on some primitive device no longer in use; but so far as is known these native fabrics were devoid of decorative patterns in color or weave. Less habitually a short wammus or shirt, with long sleeves, made of a material similar to that of the kilt, was worn; but it, too, was without ornamentation, so far as can be ascertained. The remaining article of utilitarian apparel is the belt, usually consisting of a strip of skin (of deer, rabbit, peccary, etc), slightly dressed with the hair on; frequently this is replaced by a cord or braided band of human hair, while the favorite belt of some of the

ingenuity of a modern shipbuilder to have constructed a boat. These simple, desert people, however, through centuries of struggle for life in their desolate realm had learned to use every natural material available to them, however laborious the tasks and inefficient the products. The carrizal reed, *Phragmites communis*, grows about the few permanent water holes of Seriland, and from countless numbers of these slender, buoyant canes they built their watercraft. The reeds were stripped of leaves and gathered in long bundles, bound together and gradually augmented by more and more interlaced canes until a bundle 18 to 30 feet long and 1½ feet in diameter, tapering at both ends, was made. Three of these were then bound together with cords of fiber or human hair, making a maneuverable one or two man raft, easily transported to the shores.

The mesquite tree, *Prosopis juliflora*, provided fiber for cords. The flexible outer tissues of the roots were stripped off, soaked and progressively pounded, split and worked between hand and mouth until very slender, fibrous threads were obtained which were then twisted into cords. In some cases a coarse, rough fabric was woven from these fibers, but most garments were made of pelican skins. The strips of workable mesquite root or sometimes yucca fiber were also used in making doughnut-shaped head pads which aided in balancing the capacitous earthen water jars as they were carried on the heads of the women over rough and stony trails from water hole to camp site.

While occupying the turtle fishing camps on El Infiernillo during the good season, vegetable supplements to the fishy diet were few. Every nourishing seed or woody fruit yielded by the desert was carefully gathered; even the tiny seeds of the sea grass, *Ruppia*, were sorted from beach drift and made into meal. Never did the Seris learn to cultivate any crop or domesticate any animals other than the half wild coyote dogs that lived in mutual toleration with them. Even had they done so, their success in the barren, waterless land would have been small.

Sterile as is the Seri's hinterland, for a time each summer the thorny plants with which it is so profusely stocked ripen an abundant crop of fruit. The cacti in particular yield a wonderful harvest of luscious and succulent fruits, and toward this fortuitous supply the Seris were accustomed to move in June and July. The foothills of Sierra Seri on the mainland are adorned with great numbers of giant cacti, *Pachycereus Pringlei*, *Carnegiea gigantea* and *Lemairocereus Thurberi* from which the luscious pitahayas were readily knocked down when ripe. The Indians wandered into the cactus forest and after a simple ritual marking the beginning of the feast, proceeded to gorge themselves for weeks on the succulent fruit until waning supply and cloying appetite drove them back to more severe food-getting activity by the sea. They did not customarily find it necessary to leave the cactus forest, however, as soon as the supply of fruits was no longer sufficient, for by the time the fruiting season was ended they had provided themselves with a second harvest. The pitahayas, gorged in such tremendous quantity throughout the season, were very imperfectly digested; the miriads of hard seeds, particularly, passed through the system unchanged and with the preservation of these in mind the Indians carefully collected with the aid of large sea shells all such seedy discharges and let them dry in the desert sun. Thus, as the supply of fresh fruit faded they proceeded to the use of this hoard

5:Dawson N-5 (1940) 1944 NU31 Seri NU31

of nutritious material which was ground to powder on their stone ahsts, winnowed in shallow baskets and made into a meal or paste.

The abundant cacti of many species served several other functions in the domestic economy of the Seris. The thorny cholla whose insipid fruits were not fit to eat and whose spines were a constant threat to the unprotected bodies of the Seris, found one use, nevertheless, in the burial procedure. After a body was partly covered with earth in the three foot deep grave, it was densely overlaid with chollas before leveling, to discourage the coyotes from digging for the body.

The dry skeletons of the giant cacti provided the long, cylindrical poles used in knocking off ripe pitahayas as well as in all other instances in which a straight, slender pole was needed. Since the advent of the open boat in modern times, the cactus skeleton has come in for a new use, for after trituration between stone ahst and hupf, it was found to yield a satisfactory caulking compound when mixed with sea-lion oil.

The barrel cacti, *Ferocactus Wislizenii* and *F. Coulteri*, though ordinarily abundant on the Sonoran desert are rare in Seriland and practically absent from Isla Tiburon where they may easily have been exterminated by the improvident Seris during their centuries of occupancy on account of their recognized value as water providers on the wastelands over which the Seris so frequently ventured.

These Indians found housing no problem, for, living under a climate in which frost is rare and rain infrequent, they found little need for shelters except for protection against the blazing desert sun. Camps that were occupied for more than a day or two, however, usually saw the appearance of a group of crude sun shelters. These were usually made of long, flexible ocotillo branches, *Fouquieria splendens*, stuck in the sand and fashioned into an arched framework over which a more or less complete covering of brush was piled. If, by the sea, a windbreak were desired, the brush top and siding were usually augmented by the addition of several empty turtle shells.

On the delta plain of the Rio Sonora, the mesquite, *Prosopis juliflora*, grows in remarkable luxuriance, these gnarled, spiny trees forming an almost continuous open forest 20-40 feet high. Its fruit, consisting of small, hard beans borne in slender, woody pods forms a concentrated, starchy food that the Seris found highly nutritious if not appetizing. In late summer when all fresh vegetable food had withered and disappeared, provided the turtle fisheries had not yet attracted them back to their island, they often spent some weeks gathering the beans and grinding them into a meal which was eaten as a watery atole or as a paste mixed with sea-lion oil. The more straggly and thorny cat's claw mesquite, *Acacia Greggii*, and the ironwood, *Olneya tesota*, also yielded woody beans in limited quantity.

In the deeper gorges of the mountains the Seris found *Guaiacum Coulteri* yielding a berry of medicinal properties and also *Jacquinia pungens* which produced a nut, edible when not quite ripe, and forming a favorite rattlehead when dry.

Along sandy washes, particularly on the lower flood plain of the llano grows a low, shrubby weed, *Hymenoclea monogyra*. Although during times of drought it shrinks to stunted tussocks, after periods of heavy rain its flourishing fens produce abundant seeds eaten both by the beasts of the plain and formerly by the Seris.

Before the advent of the tin can and the cardboard carton, basketry was

[TEXT CONTINUES ON P. 138--ANALYST]

5:Dawson N-5 (1940) 1944 NU31 Seri NU31

an important handicraft among these Indians. They made a shallow, coil type basket such as is characteristic of many southwestern tribes. The Seri basket, however, was remarkable for its extreme lightness in proportion to capacity, a quality due to the spongy character of the coil made of a whisp of splints of the torote. Several torotes are found in the region, the commonest species being *Jatropha cardiophylla*. Also used were the torote amarillo, *Jatropha spatulata*, torote blanco, *Bursera microphylla*, and torote prieto, *Bursera laxiflora*. The woof consisted of splints of palo blanco, *Acacia Willardiana*, or of baraprieta, *Caesalpinia gracilis*, deftly interlaced by means of a bone awl to form a smooth, practically waterproof utensil.

In pre-Columbian times the Seris commonly sought wild game, mostly deer, without the aid of weapons, using only their tremendous physical endurance against their prey, chasing the animal until it was exhausted and could be thrown to the ground. With the introduction of iron, however, the development of the bow and arrow achieved prominence, for the shaping and fastening of points had long retarded the exploitation of these implements. Few straight stemmed or straight grained plants grow in Seriland suitable for making arrow shafts, but on the flanks of the deeper gorges of Sierra Seri and Sierra Kunkaak on Tiburon Island, the Indians found one leafy shrub that filled the need, *Sapium biloculare*. The juice of this plant is also said to have been used for arrow poison. The bow was preferably of paló blanco, wrapped and strung with mesquite fiber cord.

The modern Seri tribe consists of barely more than 100 souls, with early extinction threatening from imported diseases. Their natural habits are now vastly modified and they live a comparatively sedentary life near the village of Kino, scavengering for fish heads and other refuse discarded by the fishermen, now and then fishing for themselves when in need. Every year, however, they trek off to the cactus forest for the annual feast, and in late summer many may be seen camping among the mesquite groves near the Kino well where an abundance of both mesquite beans and water makes for easy living.

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

for the point may come from the transmission of an abandoned car or from flotsam. The wood for the hafting can be mesquite or ironwood, both indigenous in the area; waste from boat construction or other scraps of wood may also be used. Rubber for the gasket may be obtained from a worn automobile tire. The wrapping cord and lead cord are store bought, and mesquite gum is used to seal the hafting.

In manufacturing foreshafts Seri fishermen use three tools: a knife, a hacksaw blade, and a triangular file. The hacksaw blade is used to cut an appropriate length of metal for the point and to rough out the barb; the triangular file is employed to finish the point barb and stem; the tang of the file is used to puncture the hole in the gasket which is to receive the point. The shaping of the hafting and gasket, and the cutting and wrapping of the lead cords, are accomplished with a knife.

With regard to the method of manufacture, all fishermen report essentially the same procedure. They describe the pattern as a series of steps under two headings: (1) shaping and (2) assembling. Two individuals did not mention steps 1c and 2b, and the others considered these two steps to be optional.

1) Shaping
   a) Shaping the metal into a point
   b) Shaping the wood for hafting the point
      α) Shaping the general form
      β) Splitting the form lengthwise and grooving each half to receive the point (see section in Figure 1)
   c) Shaping the rubber for the gasket

2) Assembling
   a) Placing the mesquite gum in the grooved portions of each half of the hafting (see section in Figure 1)
   b) Placing the gasket on the point
   c) Inserting the point base into the hafting and reuniting the split hafting form
   d) Wrapping with the wrapping cord and with it interweaving the lead cord
   e) Refinishing the hafting base to fit the mainshaft socket

Four men were able to explain the foregoing procedure in detail and were in agreement in the following matters. The point is shaped before the hafting because its length determines the length of the latter, and because the diameter of the point base dictates the grooving of the haft. The gasket is shaped after the point and the hafting because the diameter of its hole is determined by that of the point base and its total diameter by that of the hafting. The mesquite gum then secures the point and seals the hafting. Interweaving the lead cord with the wrapping cord secures the former to the hafting.

The amount of time required to complete a foreshaft shows marked variation. This is not primarily a function of the working habits of the artisan. If all the materials are present, the time it takes to make a foreshaft ranges from four to eight hours, but if all the materials are not available, as much as a year may be required. There may, for example, be a considerable lapse of time between the shaping of a point and the shaping of a gasket when material for the

9:Malkin E-5 (1953-1955)1962 MU31 Seri MU31

IX

MISCELLANEOUS

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Scientific	Common Name
ANNELIDA	
Annelid worm (tube)	
POLYCHAETA	
Eurythoe	Stinging worm
ECHINODERMATA	
Heliaster sp.	Star fish
Holothiurioides	Sea cucumber
Encope grandis	Sand dollar
Echinometra vanbrutti	Regular sea urchin
COELESTERATA	
Anthozoa	Sea-anemone
Medusa	Jelly-fish
PORIFERA	
Porifera	Sponge

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136 All these miscellaneous animals are grouped together and discussed together simply because only few species from each group are represented and any generalized comments are not reliable.

The following individuals identified the material. Annelid worm (from tube only)—J. E. P. Morrison, U.S. National Museum.

Sea-urchins — Elisabeth Deichman, Harvard University.

Remainder—Borys Malkin

Taxonomy

*825 With an exception of the sponge, all of the forms listed here are considered animals and not plants. The criterion is movement and when questioned for reasons the informants invariably replied "this is an animal because it moves." It applies equally to the jelly-fish and the *Echinoderms*. The *Annelid tubular worm* is also considered an animal and its shell is instantly recognized as an animal shell. This is surely owing to the movement of the worm in and out of the shell, although the worm does not move with the shell, being imbedded on rocks.

● [824] The sponge, on the other hand, was said to "stay on rocks for 5-6 years. It does not walk. It is an alga or plant, not an animal. There are several different kinds, different in color." Thus the minutest sort of movement is shown again to be the basic criterion for the distinction between animals and plants.

Sexing

The Seris know nothing about sex differences in these groups. Of course, several of these beasts are hermaphroditic and self-fertilizing, and there are no visible differences. But in any case the informants simply didn't know what the differences between the sexes are.

Food

No knowledge.

[P.45A]

*825 ence of feather. Uncertainty about the bat then is significant, considering the combination of traits. Other criteria may also be employed. Crabs are distinguished from some of the other marine crustaceans by their hairiness. Differences among the insects are suggested by general shape, hairiness and habitat although also certain features of behaviour sometimes suggested affinity.

Distinctions made within the groups coincide on the whole with the natural groupings, at least for the more conspicuous forms. Hence, comes the breakdown of fishes into two major categories: fishes proper on one hand, and mantas and sharks on the other, snakes and lizards among the reptiles and mammals proper and Cetaceans among the mammals. In a way the Seris' greatest talents appear to be in their ability to recognize the reptilians and amphibians. Here they confused only two species: the two small inconspicuous Utaa.

[182] As for the ability to identify an animal, it is directly related to its economic importance and relative degree of frequency in the territory, as one may well expect.

[824] A movement represents the basic difference between animals and plants to the Seris. This is why a sponge is considered a plant while sessile molusces are animals.

Sexing

Three tendencies distinguishing sexes run through the entire gamut of the animal forms, through all the classes except in the birds: the males are larger, darker and more brightly colored than are the females. These tendencies the Seris may combine in different ways. In the reptiles it is color pattern rather than size that suggests to them the male animal and while the male snakes tend to be darker than the females, in the lizards they tended to indicate the prevalence of the bright color in the males.

Then also in several groups very specific diagnostic traits are employed, as a rule in form of all sorts of extra appendages which are supposed to decorate the males. This is interesting, because it suggests the presence of such extra structures in the males rather than in the females, and, as has been seen from the text, these structures are often attributed to the males regardless of whether or not they really exist in them. The femoral ridge in the male lizards is an especially good illustration of this principle.

[182] There is also a suggestion that in one instance at least the Seris transpose their own social situation on the animals. The bees they claim have "chiefs" and these "chiefs" are males and they are also larger. Here socio-anthropomorphic interpretation is very clear.

But as indicated in the text, the sexing criteria differ often in different groups and it is only fair to show that birds represent an exception to the three major tendencies. The birds have sexes all right but the Seris cannot tell them apart. This requires no further commentary if we reflect why the Seris must think that way.

[182] [562] Finally, there is one more interesting point: [P. 55 A]

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Alverto Mendoza and Lupe Astorga getting water from cactus - used for cooking

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Child leading Petra - blind woman, Kino Bay - 1936

261 will exist on very small rations, bear burdens, and walk long dis-
262 tances. Their food is anything that walks, flies, crawls or swims,
[252] and they eat it raw with the same relish that we eat it cooked. There is but one thing they will not eat; they draw the line on the Gila monster. They are the most perfect type of human being adapted to desert conditions that exists today. Convey them blindfolded many miles into the heart of the desert, empty-handed, remove their blinders, and they will find both food and water where others would perish. The Papagos and Yaquis do almost as well."

302 We gave the women a small bag of flour and three or four cubes of
[123] sugar around, and the men three packets of tobacco each and two boxes of matches. Matches with them are very precious and are rarely used. Rather than use a match a woman came over to our fire and borrowed some coals to rebuild her fire. From this point the nearest matches are a good deal over one hundred and twenty miles distant, so they have to economize in every thing.

422 Each rag is valuable, and flour, sugar, coffee and rifle shells
[436] are absolutely priceless. While they know money, it has no value here.
[437] Only commodities go here. The most highly prized things are boards to
[389] make boats and rifle shells to get game and protect themselves. All empty shells are saved, the primer punched out, straightened, a match head put in, a little pinch of powder on top, the shell filled up, a long bullet inserted, the shell pinched tight, and a fresh set of ammunition is made.

142 The women and children certainly did look wild. Their hair was
291 frowsy and unkempt, their skirts and waists a patchwork of dirty rags
302 coming just below the knees; their features seamed and hard and cruel. Their complexion was very dark. They had no under garments. The children wore only a dirty shirt coming a little below their thighs, and even that is ragged. One or two of the women had a dirty bandanna over their heads. How I wished I could have seen them in their ancient, picturesque pelican-skin kilts!

302 I happened to witness the operation of a Seri beauty parlor. A
[824] mother brushed the hair of her thirteen-year-old daughter with a brush
[283] made from the fibrous roots of a certain grass tied together with
[515] sinew. During the operation if she came across a *piojo*, and she found several, she plucked him away from his feeding ground and dropped him in the fire.

The hair neatly brushed, the mother then mixed paint in a small vessel and with a tiny stick painted a bright blue design under the eyes and across the cheeks and nose, and then she added narrow white stripes, which, contrasting with the blue and the dark skin, produced a very striking effect. This paint is easily removed and the women often paint and remove three different face designs in one day.

304 I did not see tattoo work on either men or women, nor did they
301 wear ceremonial feathers as did our western Indians.

000 wear ceremonial feathers as did our western Indians. I saw no skin or
164 cutaneous disease, or evidence of tuberculosis or of trachoma---the curse of our Indians.

142. One boy-child of five years was a handsome child---fat, round,
302 sturdy, with roving great black eyes, large thick lips, a picture of
[21] perfect health. He was almost naked. His hair was done in a pigtail
[85] with a red string braided into it. His face like all the others was dirty, but he waded into the shallow water with a short spear and I saw him catch two crabs with his little harpoon. The water did not bother his face.

415 They had no plates or eating tools, except large deep clam shells,
412 cast up by the sea, which served as cups and dippers. Their long, keen
264 belt knives were used for cutting, carving or skinning, and always the
[23] fingers for eating. They gathered in a circle around an olla of seeds of long grass growing on the sea bottom prepared by winnowing, parching and grinding, and then cooked with turtle oil. Each one dipped his or her fingers into the olla and conveyed them to the mouth without losing a drop, and licked them off with great relish.

231 The dogs eat with the family. There were six or seven half-starved
244 ones. If someone picked up a piece of turtle flipper the dog often took the first lick at it, bit off a piece or licked it before it reached the owner's mouth. The dogs were not punished. They were just slapped to keep them out of the pots.

123 We had a great time that evening in Seriland. The young man played
534 his violin. This consisted of a hollow box cut out of a *palo verde*
[82] tree, and a piece of pine about sixteen inches long; terminating in a
[28] hollow where a single peg was fitted. The one string was twisted deer
[23] sinew, and the bridge was a small round clam shell at the far end. The
[53] bow was a small bent stick and some black horsehair. On the handle was a wad of rosin fastened underneath. By fingering this string a few weak squeaky notes were made, and this was the classical music of the Seris.

Manuel Encina seized his gourd rattle and began chanting. Herrera tapped a tin can and I beat on an inverted basket and the orchestra
535 was in full swing. A young girl, Rosa, dragged out a turtle shell and
123 standing on it began to dance. This dance consisted of stepping up and down quickly with each foot alternately, and this stamping, barefooted, emitted a hollow sound. Every once in a while I let out an
[12] Indian yell which pleased the Seris very much. For two hours they had a real swell time. We took one flashlight of the proceeding.

[34] Each family was in their hut, which afforded very slight shelter
[36] as they were only partially roofed over and the sides were broken
[35] down in places. The huts were all adjoining and each had a little
[36] campfire, which did not give much illumination, so the dancing was in semi-darkness.

(text continues on p. 163)

285 I watched a woman make a basket. She used young branches from the [824] terote tree, I think *terote blanco*. The bark was peeled and shredded into two parts, the heart taken out and kept separate. The coils of the round part were put in a pot of hot water to soften, and the edge of the basket was soaked a little in hot water. The center of the coils or woof consisted of six or eight strips of heart while the outer sap wood was woven around in regular coil-weave fashion.

[287] A brad of deer shin-bone sharpened on pumice to a needle point [412] was used as a brad. With this brad she split the fiber, held one piece in her mouth, and stripped the back down. Then she punched a hole in the bone brad, inserted the sharp end of the fiber and pulled it almost through. She then repeated the operation, adding a strip of heart once in a while. These baskets are coarse and unattractive, but they are hard and tough and stand heavy use.

323 Cooking vessels consist of two or three cooking ollas that nest together to facilitate transportation. These are made of coarse clay, solely for utility without regard for beauty of shape, color or design. In burning these ollas they use the shell of the sea turtle. [237] The cells of the shell are filled with a fine oil and this burns the [372] ollas. On most of the other places on the mainland, the Indians use cow chips, or dried droppings to fire the clay.

283 We proposed to shift camp to Tinajanita, our first landing place, 484 where Herrera was to meet us in two days with the Chief and some of 123 his men. Since it was blowing, he said the men couldn't fish and they would be on land probably hunting, so he would be able to see them. [277] At this time they gathered *aescal* on an island off the west coast to make the liquor they used at fiestas, weddings and other celebrations.

Herrera left at five o'clock in the morning, with a swinging gait, for the opposite side of the Island. The distance around by boat would be fifty miles, and across, only about twenty or twenty-five---a full day's trip and hard, as mountains would have to be crossed and the rocks were sharp and the way difficult.

123 We had breakfast on rice and bread. Our rations are running low and we expect to move this morning. We made arrangements about the native boat and saw Blanco trot off with two five-gallon cans for water, a distance of ten miles. We went to the camp to get a few things---an old basket, a Pelican hide and other things, and then we asked the help of everybody to get the boat down to water---the tide was very low. The one man, the women and five of us were required to drag and push the boat to water.

We waved goodbye, loaded her up and then rowed against the tide and wind for miles, and finally landed in a lovely sheltered lagoon, built our fire and had lunch. A few crabs were speared, and late in the afternoon the wind shifted. We loaded the boat again and pushed off for Tinajanita, our first landing place. After rowing, we raised

[text continues on p.174]

The Pelican Skin Robe

133

Toshne or Pelican Island - Kino Bay - 1936

It was the dark of the moon and a very black night, ideal for surprising the Pelicans asleep, roosting on the steep slope above the waters of the Sea of Cortez. The Pelican is a very wary bird and cannot be approached in the light of the moon. 123 223

At sundown we had climbed several hundred feet to the saddle between two peaks on the Island of Alcatraz in Kino Bay off the coast of Sonora. We rolled up in our blankets and hugged the great volcanic rocks at the crest, to be as inconspicuous as possible to the great birds circling the peaks to seek a roosting place on the west slope of the Island.

Santo Blanco had provided himself with a torch made from the slender rods of a dead *pitahalla* (organ) cactus which he had tied together in a long bundle. The four young Seris who joined him also had a torch and in addition, each had provided himself with a club. We took no fire arms. Senor Roberto Thomson, my companion, had arranged this trip with Santo Blanco, for my benefit. [416] [124]

[text continues on p. 215]

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● 824
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[For the use of various plants and minerals in the preparation of ?antez/ kóil or blue clay used in Seri facial ornamentation, see category 386.]

SERI BLUE

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ABSTRACT

The blue which the Seri Indians of Sonora, Mexico, use in face painting is not the mineral dumortierite, as previously believed, but is a prepared pigment. This paper is a description of the process in which three elements are combined to produce this pigment.

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McGee and Kroeber reported the mineral dumortierite as the source of the blue pigment used in Seri face painting (McGee 1898: 165-6; Kroeber 1931: 27). Coolidge described two blues, one a mixture of gypsum and a boiled root, the other a blue stone found on Tiburon Island (Coolidge 1939: 200). Xavier mentioned dumortierite and commercial bluing. She also referred to a third blue obtained from a plant on Tiburon (Xavier 1946). Present investigation has shown that as far as the Seri know, the only blues they have ever used are *ika?óil* "to cause to be blue" (commercial bluing) and the highly prized *?antezj kóil* "blue clay" of their own manufacture.[1]

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The components and the method of manufacture of *?antezj kóil* are said to have been taught to the women long ago by *?ant i?akímxoj* "they who tell the things about the earth." The actual color transformation is veiled in mystery to the Seri who say that if the process of making the clay is observed by any girl who has not passed the menarche, the blue will not appear. Its appearance is not attributed to shaman power, however.

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?antezj kóil has been in less demand during the last few decades since commercial bluing has been readily available. Nevertheless, *?antezj kóil* is the blue preferred by those women who continue to adorn their faces in the traditional manner.

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The three ingredients used in making the blue clay are the root bark of *xkoktz (Franseria dumosa)*, *iki kóizj* "to grind with" (a mixed clay in which montmorillonitic layers predominate), and *mokni óoxW* "excrement (sap) of *mókni (Guaiacum coulteri)*." The Seri say that the *iki kóizj* and the *mókni* are found only on Tiburon Island. The root bark of *tinkl (Franseria ambrosioides* Cav.) or of *xneejan siiktoj (Stegnospermum halimifoliam)* can be used instead of *xkoktz*. *tinkl* gives a distinct aroma to the clay. The plants mentioned are fairly common along the Sonoran coast.*

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*EDITOR'S NOTE: It is interesting to note that none of the ingredients is blue in its unaltered state.